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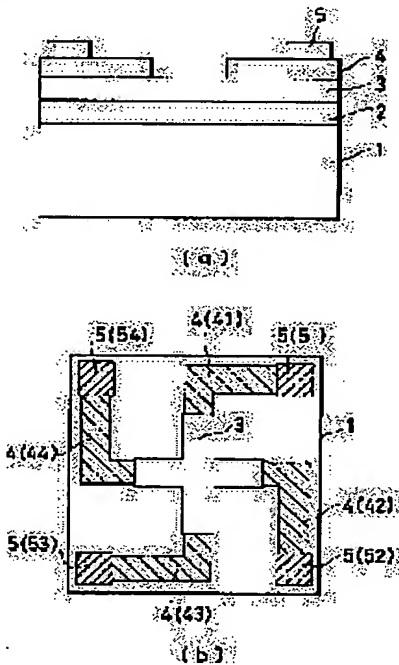
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(54) SEMICONDUCTOR SENSOR AND MANUFACTURING METHOD THEREOF

(57)Abstract:
PURPOSE: To manufacture an $\text{In}_x\text{Ga}_{1-x}\text{As}_y\text{Sb}_{1-y}$ thin film having no disturbance at all as a high sensitive semiconductor sensor having excellent temperature characteristics to be a sensor layer and realizing the manufacturing method thereof.
CONSTITUTION: Within the semiconductor sensor composed of the first compound semiconductor layer 2 in high resistance, an $\text{In}_x\text{Ga}_{1-x}\text{As}_y\text{Sb}_{1-y}$ ($0 < x \leq 1.0$, $0 \leq y \leq 1.0$) layer 3 formed on this layer 2 and electrode 4 formed on the layer 3, the first compound semiconductor has the same or approximate value of lattice constant as that of the crystal comprising the sensor layer 3 as well as the band gap energy higher than that of this crystal. The second compound semiconductor layer in the same quality as that of the first compound semiconductor layer may be formed on the surface of the sensor layer 3. Furthermore, this semiconductor sensor used as a magnetic sensor has higher semiconductor sensitivity and output than those of any prior art sensors at minimum resistance value and the temperature dependability of Hall output as well as the high reliability upon the application at high temperature.



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